

AUSTRALASIAN CERATOPOGONIDAE (DIPTERA, NEMATOCERA).

PART III. THE BEZZIA GROUP OF GENERA.

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(With Plate xxi, Fig. 5, and eight Text-figures.)

[Read 29th October, 1947.]

INTRODUCTION.

The present paper discusses four species included in the genus *Bezzia*, of which one is described as new, and one species, also new in *Nilobezzia*. The latter is the first record of this genus from the Australasian region. For the characters differentiating this group see Part I of this series.

Translations of Kieffer's original descriptions are included in order to facilitate re-recognition of his species. In these translations Kieffer's interpretations of the number of segments in the antennae and palpi and his terminology of wing venation, are adjusted to present conceptions. Although his type specimens were from the National Museum of Hungary, Budapest, I have been unable to find out whether or not they are still in existence.

Genus BEZZIA Kieffer.

KIEFFER, J. J., 1899.—*Bull. Soc. ent. France*, 68 : 69.*Genotype* (by original designation): *B. ornata* (Meigen).

GENERIC CHARACTERS.

This genus does not seem to have been adequately defined, but the following combination of the characters given by Goetghebuer (1920) and Edwards (1926) should provide a workable definition. The genus has many of the characteristics of *Palpomyia* but an anterior tubercle is lacking, as also is R_{2+3} (hence only a single radial cell); R_{4+5} terminates between the middle and the extremity of the wing and the median fork is sessile. Macrotrichia are restricted or absent. Femoral spines may be present or absent and the fourth tarsal segment is short and cordate and without spines.

For the present I have included all species conforming generally with the above definition in the genus *Bezzia* with the exception of one species which I feel is without doubt a *Nilobezzia*. The species *B. curticornis* may later require to be placed in some other closely related genus and Skuse's *Ceratopogon latipennis** is only doubtfully placed here, but owing to damage to the type its position must remain obscure until it is again collected and recognized.

Key to Known Australasian Species included in Bezzia.

1. R_{4+5} extending at least to distal fourth of wing 2
 R_{4+5} scarcely passing the middle of the wing, macrotrichia present on the distal half of the wing *latipennis* (Sk.)
2. All femora armed with black spinules; fifth tarsal segment with 5 pairs of cylindrical black spinules *curticornis* K
 Only anterior femora armed with spines 3
3. Anterior femora armed with 5-6 black spines; fifth tarsal segment bare of spines
 *australiensis* K
 Anterior femora with one spine only *tasmaniensis* n. sp.

* Kieffer (1906) placed this species in both *Didymophleps* (p. 56) and *Bezzia* (p. 58), although in 1917 he considered it as a *Didymophleps*. His earlier confusion does indicate that he regarded it as at least related to *Bezzia*.

BEZZIA LATIPENNIS (Skuse).

SKUSE, F. A., 1889.—*Proc. Linn. Soc. N.S.W.*, 4 (2nd series): 308. (*Ceratopogon*.)

KIEFFER, J. J., 1917.—*Ann. Mus. Nat. Hung.*, 15: 193. (*Didymophleps**)

Type: All that remains of the unique female type is what is apparently a hind leg. In Macleay Museum, University of Sydney.

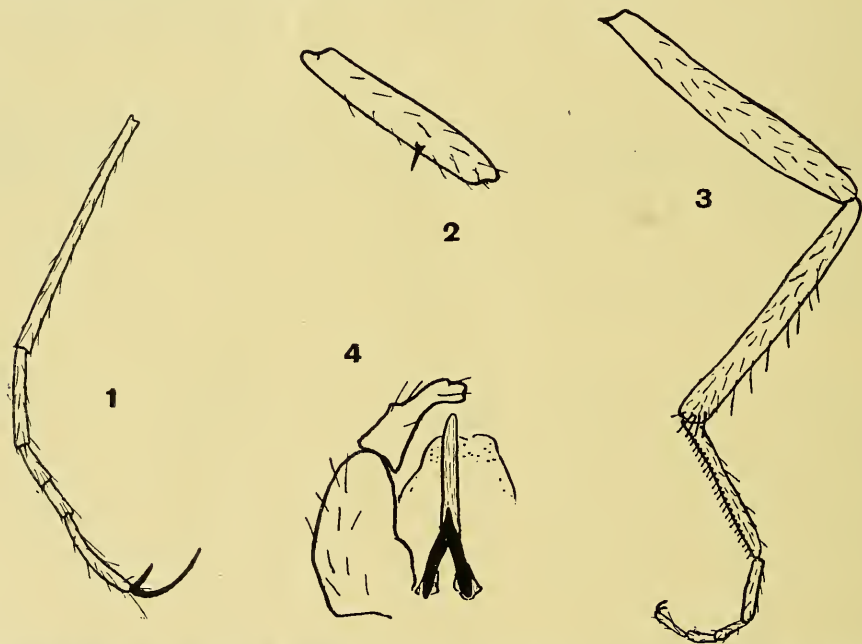
Type Locality: Berowra, New South Wales.

Synonymy: *Ceratopogon latipennis*, Skuse, loc. cit. *Didymophleps** *latipennis*, Kieffer, J. J., 1906. Chironomidae in Wytzman's Genera Insectorum, fasc. 42: 56. *Bezzia latipennis*, Kieffer, loc. cit., 58.

Note: Until this species is rediscovered it will be impossible to place it with certainty in its correct genus. It does, however, seem likely that it will fall into the *Bezzia* group of genera because of the single radial cell.

DISTINCTIVE CHARACTERS.

It should prove a simple matter to recognize this species again. It is dull brownish in colour with yellow legs, of moderately large size (wing 1.89 mm. long) and there is only a single radial cell and the apical half and posterior border is clothed with a minute yellowish pubescence. The tarsal claws are very long (see Text-fig. 1).



Text-figures 1-4.—1, Hind tarsus of *Bezzia latipennis*, $\times 100$. 2, Fore femur of *B. tasmaniensis* (male), $\times 100$. 3, Hind leg of *B. tasmaniensis* (male), $\times 100$. 4, Male genitalia of *B. tasmaniensis*, $\times 336$. All figures from holotype specimens.

BEZZIA CURTICORNIS Kieffer.

KIEFFER, J. J., 1917.—*Ann. Mus. Nat. Hung.*, 15: 196.

Type: Presumably in National Museum of Hungary, Budapest.

Type Locality: Botanic Gardens, Sydney, New South Wales.

Translation of Original Description.

“♀. Tawny yellow, dull and pruinose. Eyes separated by their terminal breadth, the third segment of the palpi a little enlarged, as long as the fourth and fifth together, the latter subequal. Antennae brown, short, not attaining the wing base, scape reddish-brown, segments 4-10 compact, briefly elliptical, scarcely as long as wide, segments 11-15 cylindrical, together as long as 3-10 together, each twice as long as wide. Thorax strongly convex, higher than long, without a spinule in front. Mesonotum glabrous, with a median band of a dull brown, linear,

* Kieffer, however, used the incorrect spelling *Didymophleps* for this genus.

divided by a fine longitudinal line, shortened behind; the anterior third and the sides of the mesonotum equally brownish black. Scutellum pale yellow, with long hairs. Halteres pale yellow. Wings whitish, almost rectangular at the lobe, with an indistinct dark spot situated in the fork of the anal vein, R_{4+5} attaining the last fifth of the wing, not passed by the costa, closer to the wing point than M_2 , at least twice as long as R_1 , its base very oblique and longer than r-m, the latter perpendicular, bifurcation of M proximal to r-m, the M_{3+4} - Cu_1 fork situated under r-m, M_{3+4} continuing the direction of the stem, Cu_1 very oblique. Legs moderately large, pale yellow, fifth tarsal segment black, the distal half of all the femora armed with black spinules, these longer than ordinarily, attaining in length half the width of the femora, six or seven on the four anterior femora, four or five on the two posterior femora, the two posterior legs having also on the femora, the tibiae and the tarsi, hairs as long, the four anterior with shorter hairs; posterior tarsi distinctly longer than the tibiae, third segment of all the tarsi cylindrical, two to three times as long as wide, fourth scarcely as long as wide, obliquely truncated but not lobed, the fifth almost as long as the third and fourth together, slender, curved with five pairs of cylindrical black spinules; tarsal claws large, attaining two-thirds of the segment, equal, bifid, the two branches unequal, the larger almost three times as long as the smaller. Abdomen whitish-yellow, flattened, as large as the thorax. Length 3 mm."

Distribution: This species has not yet been rediscovered.

BEZZIA AUSTRALIENSIS Kieffer.

KIEFFER, J. J., 1917.—*Ann. Mus. Nat. Hung.*, 15: 197.

Types: Presumably in National Museum of Hungary, Budapest.

Type Locality: Botanic Gardens, Sydney, New South Wales.

Translation of Original Description.

"♀. Brownish-black, dull, head brown. Antennae separated by a triangular space narrowing to a fine line in front. Fifth segment of the palpi a little longer than the fourth, shorter than the third, without long hairs. Antennae attaining the posterior border of the thorax, segments 4-10 cylindrical, a little longer than wide, segments 11-15 together a little longer than 3-10 together, filiform, each a little more than twice as long as 10. Thorax strongly convex, higher than long, without spinule in front. Mesonotum glabrous, with three longitudinal bands of reddish-brown, the median linear, bordered by a clearer colour, the laterals shortened in front; shoulders with three or four little white spots. Scutellum with several hairs. Petiole of the halteres pale. Wings hyaline, gradually thinning to the base, R_{4+5} not passed by the costa, 2.5 times as long as R_1 (at least) attaining the last quarter of the wing, further distant from the wing point than M_2 , but closer than M_{3+4} , in its distal half it approaches the costa and the narrow space which separates them is darkened; bifurcation of M proximal to r-m, the base of Cu_1 on M_{3+4} is distal to the r-m; intercalary fork absent, as usual in this genus. Legs slender, femora, tibiae of the two anterior legs with two yellow rings, intermediate tibiae with one yellow ring near their distal extremities, posterior tibiae with a large yellow ring near the middle and yellow at the base, tarsi all yellow, distal extremities of segments 1-3 and segments 4-5 black, anterior femora with five or six spines on its distal half, the others inermous, all the tarsi a little longer than the tibiae, third segment of the posterior tarsi at least twice as long as wide, fourth transverse, cordiform, fifth longer than the third, narrow, slender, inermous; claws of moderate length, one-third the length of the fifth segment with a minute tooth at their base. Abdomen flattened scarcely narrower than the thorax. Length 2-3 mm.

"Sydney, Botanic Gardens (Biró, 1900). Two females; a third specimen has the four posterior legs reddish, with the tibiae and tarsi yellow, the posterior tibia having near its extremity a black ring, and near its base, another larger one."

Distribution: This species has not been rediscovered.

Note: A specimen in the C.S.I.R. Museum from Blundell's, A.C.T. (7.i.1930, A. Tonnoir), would key to *B. australiensis*, but differs at least in its uniformly shiny dark brown scutum, and darker legs. It is almost certainly a new species but is too damaged for description.

BEZZIA TASMANIENSIS n. sp.

Type: Holotype ♂, in the C.S.I.R. Museum.

Type Locality: Burnie, Tasmania (31.i.1923, A. Tonnoir).

DISTINCTIVE CHARACTERS.

A small species of uniformly dark-brown colouration (head, thorax and abdomen) with pale yellow-brown legs except for the tibiae, which are indefinitely slightly darker at the tip and anterior femora with only one spine.

DESCRIPTION (See Table I for measurements).

Male.

Head: The eyes are separated, the antennae short with segment 2 (the pedicel) very large, the two almost touching; segment 3 with a long stem but otherwise similar to the

following flagellar segments, 4 to 11 being equal in size, subcylindrical, a little longer than broad (6:4) and 12 to 15 are elongated, almost three times as long as wide, but 12 is slightly smaller than the other three and 15 slightly longer. There are sparse verticils of long hairs on segments 3-11.

Thorax: The scutum and scutellum are clothed with fine golden hairs, uniformly but sparsely distributed. The halteres are of the same colour as the thorax.

Legs: The femora of the forelegs (Text-fig. 2) have a single stout short spine on the under surface about two-thirds from the base and the tarsal claws are equal and simple on all legs. See Text-fig. 3 for illustration of hind leg.

Wings: The wings (Plate xxi, fig. 5) are covered with fine microtrichia but macrotrichia are absent. There is only one radial cell, R_{2+3} being absent, and R_{4+5} (and the costa) extend about five-sixths the length of the wing and M_2 arises underneath r-m.

Abdomen: The genitalia are of the usual *Bezzia* type, very small with the harpes fused into a long median rod. (See Text-fig. 4.)

The female is not known.

Distribution: Only known from the type locality.

TABLE 1.
Measurements of Species of the Bezzia Group.

	<i>Bezzia tasmaniensis</i> ♂		<i>Nilobezzia whartoni</i>		
			♀	♂	
	mm.		mm.		mm.
Wing—					
Length	1.105		2.430-2.538		1.350
Width	0.391				
Antenna—					
Total length, seg- ments 3-15 ..	0.510				
Segments 4-10 ..	Each 0.035				
Segment 12 ..	0.045				
" 13 ..	0.050				
" 14 ..	0.050				
" 15 ..	0.060				
Legs—	Fore Leg.	Hind Leg.	Fore Leg.	Hind Leg.	Hind Leg.
Femur	0.289	0.408	0.780	1.092	0.690
Tibia	0.272	0.357	0.780	0.988	0.572
Tarsus I ..	0.111	0.187	0.384	1.040	0.390
" II ..	0.051	0.085	0.169	0.234	0.143
" III ..	0.034	0.034	0.104	0.169	0.104
" IV ..	0.034	0.034	0.078	0.104	0.078
" V ..	0.051	0.051	0.195	0.208	0.117
Claw			0.169	0.195	0.039

Genus NILOBEZZIA Kieffer.

KIEFFER, J. J., 1921.—*Ann. Soc. Ent. France*, 90: 24.

MACFIE, J. W. S., 1934.—*Tijdschr. v. Ent.*, 77: 230.

Genotype: *Nilobezzia armata* Kieffer, loc. cit. (By monotypy.)

GENERIC CHARACTERS.

The wing venation in *Nilobezzia* is similar to that of *Bezzia*. However, the fourth tarsal segments are subcylindrical and the femora lack stout spines but have some of the setae of the four posterior legs strengthened into spinules. As in the species described below, only one or two such spinules may be present at the distal extremity

of the femora and might easily be overlooked. The tarsi have their fifth segments armed with strong spines and the female claws are equal and barbed.

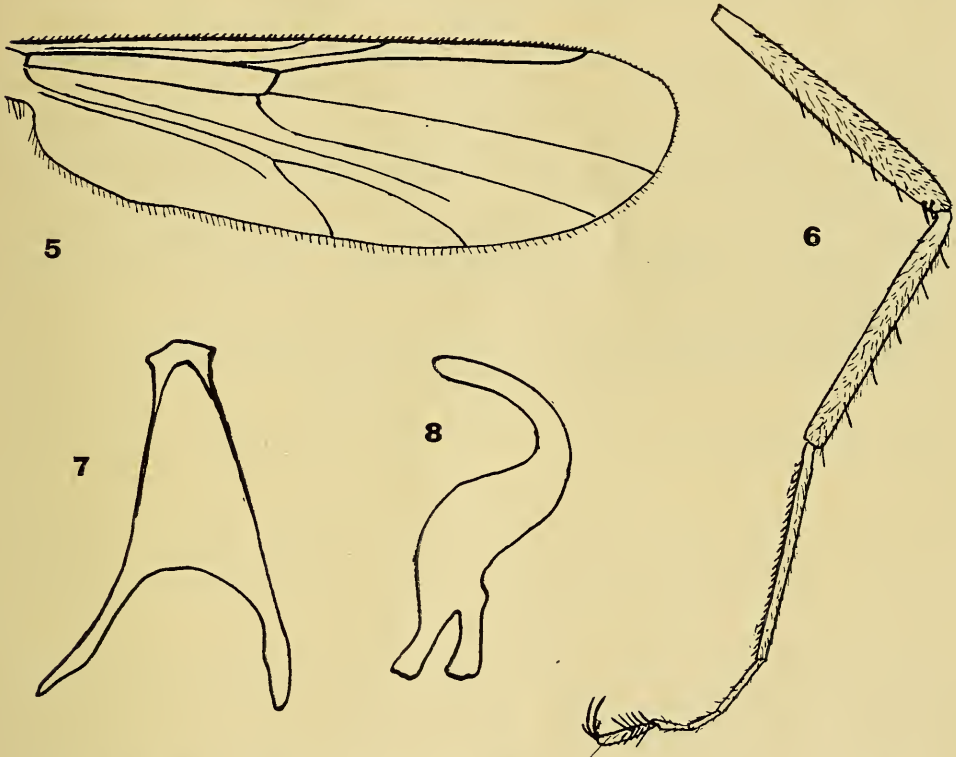
NILOBEZZIA WHARTONI, n. sp.

Types: Holotype ♀, allotype ♂ and one ♀ paratype in the C.S.I.R. Museum.

Type Locality: All specimens from Fairfax Harbour, Port Moresby, Papua (30.v.1947, R. H. Wharton).

DISTINCTIVE CHARACTERS.

This species may be distinguished from all other species recorded from the region on generic characters alone.



Text-figures 5-8.—*Nilobezzia whartoni*. 5 and 6 from holotype female. 7 and 8 from allotype male. 5, Wing $\times 35$. 6, Hind leg, $\times 35$. 7, Phallosome, $\times 314$. 8, Harpe, $\times 314$.

DESCRIPTION.

Female.

A brown to dark brown species with white halteres, whitish abdomen and brown legs, of which the first four tarsal segments are paler than the rest of the legs.

Head: The head is dark brown, with brown antennae and light brown mouthparts which are scarcely half the height of the head. Of the antennal segments 3 is longer than 4, 4-10 are barrel-shaped, 11-15 elongate and approximately equal, each being about twice the length of 10. The palpi are without any obvious modifications, the third segment is the longest and the fourth and fifth equal. The eyes meet dorsally.

Thorax: The scutum, pleura and postnotum are brown, but the scutellum is a paler brown than the rest of the thorax. The halteres are white with pale yellowish stems.

Legs: The legs are brown with femora, tibiae and fifth tarsal segments darker than the first four tarsal segments. All the femora have one or two thickened spines near the apex and the tibiae have about five similarly stout spines equally spaced along their

whole length. There is, however, only a slight difference between the strength of these spines and the rest of the setae uniformly covering the femora and tibiae. The fourth tarsal segment is the shortest, but is cylindrical. The fifth tarsal segments are elongate, slightly expanded apically and bearing about ten strong pointed spines. The claws are equal, each about as long as the fifth tarsal segment and with a strong basal tooth. Text-fig. 6 illustrates the hind leg.

Wings: The wings are without macrotrichia and the microtrichia are so fine they are scarcely discernible at a magnification of 60 times. The venation is as shown in Text-fig. 5.

Abdomen: The abdomen is yellowish white with somewhat darker areas, particularly at the margins of the tergites and the first tergite is dark brown.

Male.

This sex is noticeably smaller than the female and darker in colour. The thorax is dark brown and the scutellum and postnotum particularly dark. The femora, tibiae and fifth tarsal segments of all legs are dark brown and the rest of the tarsal segments light brown. The claws are small, equal and simple with merely a basal angle. (See Table 1 for measurements of wings and leg segments.) The abdomen is similar to that of the female.

Male Genitalia: The coxites are small and rather narrow (both styles are missing in the allotype), the ninth sternite large, longer than the coxites and complicated with folds and lobes in its distal half. The phallosome is shown in Text-fig. 7 and the fused harpes in Text-fig. 8.

Distribution: As yet this species is only known from the type locality.

References: Any citations not given in full will be found in Part I of this series.

EXPLANATION OF PLATE XXI.

Fig. 5.—Wing of holotype male of *Bezzia tasmaniensis*, $\times 50$.
